

# AMERICAN BEE JOURNAL



BARBARA JOHNSON  
Minnesota Honey Queen

Vol. 96 No. 1

JANUARY

1956

# York's Package Bees and Queens for 1956

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Queens	1.35	1.25	1.15



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Tested queens add \$1.00 each extra.

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Queens .....	1.35	1.25	1.15

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*Prices will be announced soon.*

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**American Rabbit Journal**  
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January, 1956



Package Bees and Queens

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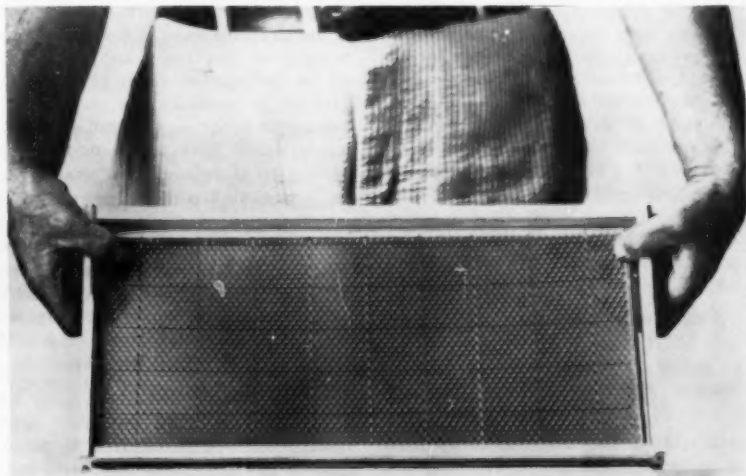
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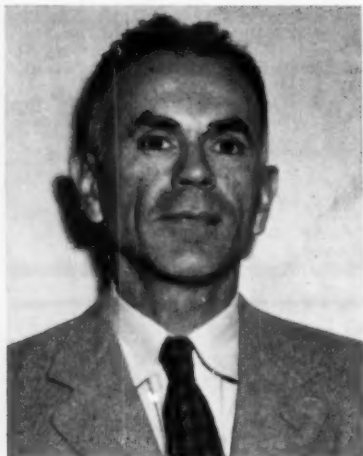


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## We'll Take the Backache Out of Beekeeping

by H. L. Maxwell

Later H. L. Maxwell will have a detailed plan with pictures and drawings to give anyone interested a better idea of just what is needed for bee yards on wheels.

**W**ITH clouds of insecticides shaping up for dumping on various farm crops on nearly every farm in our territory in the immediate future, we've had to revise our philosophy of commercial beekeeping technique radically or face the prospect of being wiped out. We are also faced with the problem of having to isolate our bees in limited, spray-free areas (whether good or poor for bee forage) for the greater part of the year. We visualize the prospect of moving to a honey-flow on a "hit-and-run" basis (in true cave-man style from our "reservation") for it's of short duration only, just as we now slip in for pollination between the lethal spray schedules.

The prospect ahead is a dire one, and the first impulse is to quail before the menace, but we are "bull-headed" and we propose to meet the challenge . . .

We have, therefore, come up with a scheme (through borrowing an idea here and there and our own improvisation) that is so novel and practical that we can best describe it in this way . . .

First, we shall begin by tearing up the bee books. We shall tear out the chapter on skunks, ants and other pests of like nature. We shall

tear out the chapter on windbreaks and shadeboards and the chapter about clipping around colonies or mowing the grounds of the apiaries. We shall even tear up the chapter that concerns colonies being submerged in deep snows and the subchapter on floods. We shall not again stumble over stones or rough terrain in the bee yard nor shall we be bedraggled and wet when the ground is sodden. We propose to move our beehives without ever lifting a single hive again or without having to close one. We shall even propose that I alone can harvest a 10,000-pound load of honey comfortably and not lift a single super. With no help, I shall remove this honey from the colonies, load it on my truck, return to the honey house and unload it, still without help, and I shall not lift a single super.

For us, this is the beginning of beekeeping, the real beginning. Our labor costs will be reduced by more than 50 per cent. The wear and tear physically on ourselves will be reduced by a far greater amount. There will be no more broken backs or backaches or risks of sunstroke. We shall be able to move an apiary easily—as a matter of fact, one person will be able to load and start the movement of such apiary in a

matter of five minutes. The only time interval involved will be that of commuting between the apiary and the destination. Such colonies of bees shall be easily moved again to another location or returned to their homesite. In fact, a teen-ager can accomplish this operation so long as he can drive.

How shall we do it? Well, this is a secret, but it is too good to keep. This is how we shall do it. All of our apiaries in the future will be mounted on portable islands built of wood. These islands will be creosoted for long life and each island will be styled to accommodate 60 colonies of bees, and to be portable on the highway. We shall use a four-wheel drive power unit for motive power, and a trailer of sufficient dimensions with hydraulic lift will be used for hauling the island. All the operator will need to do in moving an entire apiary will be to back his trailer underneath the island, hoist it with his hydraulic lift and take off. Each hive will be permanently attached to the platform in its year-round position. No closing of the entrances will be necessary and we shall not do so. If we move for pollination we shall move islands of bees, so many islands per customer. No longer shall

we move individual colonies. In the summer we shall have shadeboards of aluminum metal overhead and these will be folded up from either side of the island where they previously have been serving as wind-breaks. If there is a shower of rain or even a downpour, we can continue to operate our colonies in comfort. If there is a deep snow in winter we can still sweep off the island and probably the wind will do it for us. There will be less deterioration of equipment because of elevation from ground level and protection from exposure to weather and sun.

While our bees were in the orchards in the past, we lost sight of or contact with them for three or four weeks at the most critical build-up period of the year, and we have often said that this loss of control of our colonies resulted in such deterioration that we felt the gain of pollination rentals was offset by loss of honey yield later in the season. We shall no longer be under this handicap. Apiaries will simply be closer together, intact, on good ground and more accessible. In the future we shall be able to manipulate our apiaries during fruit bloom. Remember, the bees at colony en-

trance level, will be up in the sun, clear of flight obstructions such as high grass, weeds and shade, as our islands will be located in accessible places four feet off the ground. If necessary, we can actually super colonies for apple nectar. We can carry on artificial swarming if need be without depreciating the colony strength for the fruit grower. We can introduce queens under the most advantageous conditions or even make divisions and the fruit growers shall not be penalized in colony strength, since all bees will remain on the island. If necessary, we can add the first super to catch an early flow or to assist in swarm control before returning from the orchards, in the event we are delayed at a later date in completing this operation.

From now on it shall be easy to keep bees, to keep a lot of them. With this scheme we shall be able to keep twice as many more easily than we can today, except in volume of honey produced and handled. My teen-aged boys can do a man-sized job with this equipment. As the honey is removed from the colony, I shall load it on a specially designed pallet—that is, I shall set it down on

the pallet. I shall no longer lift the honey up. As the pallet is loaded with as many supers as necessary a built-in hydraulic lift on a hand-operated platform truck with rubber-tired wheels will lift the stack of supers, tow them onto the truck platform and deposit them. I can harvest 100, 200 or 300 supers depending upon my truck capacity and all I shall exert is to lean against the handle of my hydraulic lift platform truck and move the honey to the truck body. The honey can be unloaded at the honey house just as easily. (The approach to the island can be easily graded by dumping a load of shale so that the truck floor level will be at the level of the island floor. This feature is also obtained by grading at the honey house so that the truck floor level will be identical with the warehouse floor. Pallet loads of supers then can be either loaded on the truck easily or removed as desired.)

So I repeat, for us beekeeping in the future will be easy. If we want to move to other honeyflows, such as sourwood, we can move several apiaries quickly. Then we can bring the colonies back, with the honey crop on them and harvest it later at our pleasure . . . Virginia

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## The Lacquered Drum for Honey

by T. H. Shield, General Manager

Ontario Honey Producers Cooperative, Ltd.

THE Ontario Honey Producers Cooperative, Ltd. was the first firm to use the five-gallon, full open head, lacquered drum as a honey container. Previously, we had been using the five-gallon, imperial size, square tin with an outside shipping case of corrugated paper. We were primarily interested in using the lacquered drum as a cream can proposition. These were to be sent out to our shippers and they would return them for re-use.

Our first drum was made in 1932. It was made of 28 gauge steel to hold 60 pounds net of honey, as we were at that time using 60-pound tins as our standard. Later we went to the 5-gallon imperial size which holds 70 pounds of honey. The change was made because we could procure this size for less money as it became standard for other prod-

ucts. We still have many of these old drums around the plant but do not use them for our shippers. The interesting part is that the lacquer inside many of them is in good shape. To the best of our knowledge, this drum is not used in the United States to any great extent. The square, 60-pound tin is in use, being gradually superseded by the large packers by a steel drum or barrel holding 600 pounds.

In Canada, the five-gallon, imperial size is manufactured by the American Can Company of Hamilton, Ontario and the Continental Can Company of Toronto, Ontario. Both of these firms have developed a special type of food lacquer to be used inside the drum. The lacquers used previous to World War II were better, so far as lasting qualities are concerned, than those used after the

war began. Apparently the manufacturers had to use synthetic lacquers which did not last as long.

During the past two or three years a decided improvement was made in the lacquers used by both firms.

In the washing of these drums at our plant after the honey has been removed, the whole drum goes into a tank with lukewarm water and remains in this tank soaking for about fifteen minutes. The capacity of this tank is filled with sticky drums. Then they are placed in a second tank with warmer water and soaked a few more minutes. The drums are then removed from the second tank one at a time and passed over a steam jet which heats the drum by spraying steam on the inside to such a temperature that the operator must wear heavy rubber or leather gloves. The drums come off this steam jet so hot that they will dry with their own heat. The lids are washed separately by soaking similar to the drum and put through a bath of hot water and allowed to dry.

Our method of liquefying honey is to place the open drums on a rack

lying on their sides with the mouth ends slightly lower and the drums resting against a heavy screen. This is to prevent the cake of honey from floating out of the drum before it is melted. The honey runs away as it melts. The temperature of the room or oven where this takes place is thermostatically controlled at 140 degrees Fahrenheit. It is our guess

that liquefying honey in these drums in a hot water vat would not take the lacquer off the inside of the drum any faster than by washing over a steam jet. We have between 50,000 and 60,000 of these drums in operation each season. Some of them are used two or three times during the season. They seem to be very satisfactory.

the 2-mile radius. This meant the use of many bees to show results in the small plot.

Clarence Benson furnished 700 colonies and an additional 558 colonies were also moved within two miles of the plot during flowering making a total of 1,258 colonies, a very high concentration for the area.

The results of this work as given at the beginning of this report are so exciting that there are bound to be continuations of the attempts to produce hybrid seed on a commercial basis with the aid of honey bees. This may in turn bring about a revolution in the cotton industry in the South. We hope to have more details about the findings given by Dr. Peebles in our February issue. Mrs. Benson, who is a capable reporter, obtained a full report of the work and is now preparing the material.

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## Cotton Growers and Beekeepers May Become Partners

Dr. R. H. Peebles in charge of the U. S. Cotton field station at Sacaton, Arizona, at the annual meeting of the Arizona Beekeepers' Association in Phoenix, December 17, announced the results of the first planting of honey bee pollinated hybrid cotton seed. The research work was done with the cooperation of the Bee Culture Laboratory, the beekeepers, cotton producers and others. While the results have not been completely analyzed, some of the experimental fields of hybrid seed, produced with the aid of honey bees, show an increase of 20 to 24 per cent over the better of the long staple parent varieties.

Much work is yet to be done before hybrid cotton seed is available for commercial planting, but everyone who has had a share in the production of the hybrid seed with the aid of the honey bee is pleased with the first results.

It is the opinion of Clarence Benson, chairman of the Research Committee of the American Beekeeping Federation, that hybrid cotton is coming sooner or later for the South and that it will require thousands of acres to supply seed for Arizona alone and more bees will be required for pollination than the entire state of Arizona has at the present time.

The interest in the use of bees for cotton pollination goes back to 1930 or before. Cotton is self-fertile and will set, but fertilization, even when hybridization is not involved, is more nearly complete and the yield of seed and lint is greater when additional pollen is carried to the stigmas by bees and other insects. Cotton flowers secrete nectar attractive to bees only during their single day of bloom. The extra-floral nectaries

secrete nectar over a period of several days. The nectar in the flower has a concentration of about 20 to 30 per cent but the extra-floral nectar many reach 60 to 80 per cent. So the honey bee will go first to the most concentrated source, the extra-floral nectar, and will not visit the real flowers until this nectar is gone. The wild bee, however, interested in the pollen, goes first to the flower and rarely to the extra-floral nectaries, so the wild bee is more effective as a pollinator. But by concentrating sufficient honey bees in an area to remove the extra-floral nectar rapidly the bees are then forced into the flowers and so they become an effective pollinating agent.

In 1952 it was reported that with ordinary cotton there is little difference in number of flowers to the plant or in the amount of shedding of bolls whether bees were present or when they were excluded. But there was an increase in seed set of 9.1 per cent even in upland cotton.

The experiment with hybrid cotton began in 1952, in hand pollinating two strains of long-staple cotton. The hybrid produced about 25.5 per cent more cotton than the best parent. This, of course, led immediately to an attempt to produce the hybrid under field conditions.

In 1954, Dr. Peebles with the help of the other agencies mentioned obtained sufficient honey bees to perform the necessary crossing in a 10-acre hybrid cotton experiment, in which five acres were planted to alternate rows of the two varieties and five acres were planted in two rows of one to one row of the other. In addition to the 10 acres involved in the experiment they found that there were about 3500 acres of cotton in

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### Cookies—Made with Honey

American Honey Institute has a bright, new booklet with this title; 32 pages with 41 recipes; nicely illustrated. If interested inquire of American Honey Institute, Madison, Wisconsin.

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### Carrots . . .

Research by USDA and Utah experiment station showed that when bees were placed in pollination cages with carrots, there was 740 pounds of viable seed per acre as compared with 566 in an uncaged plot, a 28% increase. (B Notes, Col.)

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### 1956 International Congress

A preliminary invitation in the form of a brochure in English is being sent to interested beekeepers throughout the world to attend the 1956 International Congress to be held in Vienna, Austria, August 12 to 18.

The Congress will be held under the auspices of the Österreichischer Imkerbund. Included in the activities are bus rides to neighboring castles, to apiaries and to well-known places in and around Vienna, as well as days packed with convention activities.

Interested readers desiring a copy of the program and prospectus may write to Congress Secretariat, Österreichischer Imkerbund, George-Koch-Platz 3/11 a, Vienna 1, Austria.





# Requirements for Pollination

by I. F. Miller

**T**HE establishment of any new procedure always takes time; difficulties must be overcome. That is true of planned pollination. Here in the Midwest, the honey bee is far from extinct, but many insects diminish rapidly. Natural habitats are eliminated; plows, lifted by power, can be set down in the corners of a field, while a few years ago they were dragged around the field making the cultivation of the small corners impractical. These "pockets" were left open for the use of insects and other wild life.

So, in many states, the awakening has come that the beekeeper is a must. But, in the Midwest, unfortunately, this is not true. Yet, even here, new spraying techniques are taking out the native insects and so the honey bee is the only one we can control and through the concentration of colonies we can, to a large extent produce the pollination we desire.

Still many farmers are of the opinion that they are doing the beekeeper a favor by allowing him to set his hives on the farm. This is particularly true in the Midwest. Many parts of the country have long passed this stage. Since this section of the country is new to the idea of pollination we must now start to build for the day when pollination will serve as income, as well as honey and wax.

For proper pollination, colonies must be strong. If pollination is attempted with weak colonies the results will be poor, and that will lead to bad relations with those seeking pollination and could lead to bring-

ing in bees from another locality. Then local beekeepers would lose out in favor of those well versed in the processes and practices of pollination.

Among other items to be worked out are standard rates for the service of pollination. A fair price for a fair job must be the rule not the exception if we expect to grow into this new type of beekeeping. The distance the bees must be carried from the home apiary is going to determine part of the cost because of the transportation involved. If the beekeeper does not have trucking facilities he will have to hire them or rely on the farmer to move the bees in in return for which the farmer will expect a reduced rate. If the number of colonies to be moved is large, extra help must be hired and the cost of this will have to be considered in the price of the service.

Once colonies are installed, trips must be made to check them. If they remain in the location during a flow, supers must be brought in and added to the colonies and this may also affect the price. The location may cause damage to the bees or to equipment. A nearby apiary may have disease and your bees may become infected. So risks and losses must be calculated in the price to be paid for pollination.

Consider the actual process of pollination. If the object is to pollinate fruit trees and there is something else in bloom at the same time that the bees like better, there will have to be an extra concentration of colonies to get results.

Group pollination may be one an-

swer for both the farmer and the beekeeper. Through a plan of rotation, crops can be brought into bloom at different times and the colonies left in one location. The cost of this over-all job would be higher but if the cost is divided among several participants, both the farmer and the beekeeper come out ahead. Projects of this sort, however, take a lot of work and cooperation. Most farmers and fruit growers are aware of the need for pollination but we beekeepers must sell the idea of planned pollination to them. The beekeeper will then receive an added return from his bees and the grower will get his return in increased, or better, crops.

When fruit pollination is involved, we cannot control the weather. If temperatures are low during the time of pollination colonies must be scattered or grouped out to get satisfactory results or the grower will sour on the whole idea.

It is folly to cut prices for pollination service for no one will make anything out of the job. Stick to your price and have good, strong colonies, then the grower will learn that a cheaper price is not worth it.

Keep your equipment well repaired and painted. Select your equipment well. Stick to standard, commercial hives that fit together well. Set your colonies in location in an orderly manner. Then your reputation will be good.

We are entering a new phase of agriculture and the beekeeper is a part of the picture. Are you going to profit from the change? It is up to you.

Kansas

# Flies, Sweet Clover & Honey Bees

by Dr. V. G. Milum

FROM time to time beekeepers report that flies are so abundant on sweet clover that bees will not work the blossoms. Dr. W. P. Hayes, Entomologist, of the University of Illinois, in a personal conversation, stated that he had noted Tachinid flies, whose larvae are parasites of the army worm, so abundant on sweet clover that honey bees could not get to the blossoms. According to Metcalf and Flint, army worms are preyed upon by the larvae of a number of insects including *Winthemia quadripustulata* (Fabriciuse) and other Tachinid flies. The fall army worm in some seasons have several parasitic enemies, including a Tachinid fly, *Winthemia rufopicta* Big.

Cutworms are subject to attack by other insects including flies which lay their eggs on the backs of the worms. According to G. H. Cale, the flies on sweet clover are reported by Dr. B. E. Montgomery of Purdue University as being Tachinids, especially *Archytas apiifera*, which are parasites of cutworms. Professor J. J. Davis (1919) reports that there are five species of flies, whose larvae are parasites of white grubs or June beetles. Among the most important is a Tachinid fly, *Microthasma disjuncta*, and a dextid, *Ptilodexia har-*

pasa Walk.

From the above, it is apparent that the flies observed on sweet clover are likely to be Tachinids, of various species, whose larvae are parasites of either army worms, cutworms or white grubs. It would seem that while the fly parasites of cutworms and white grubs may always be present in variable numbers, the great abundance of flies on sweet clover is probably correlated with the outbreaks of army worms. As is true in most host-parasite combinations, population build-up of the parasite usually follows the abundance of the host. Thus one would expect a greater abundance of flies on sweet clover in the year following the army worm outbreaks. Beekeepers should not be too critical of the flies for besides the benefit of the flies in helping to control the army worms, which devour sweet clover, lack of nectar secretion by sweet clover may be, because of weather conditions, another reason for a poor honeyflow.

## References

- Davis, J. J. 1919. Contributions to a knowledge of the natural enemies of Phyllophaga. Illinois Natural History Survey Bulletin, Vol. XIII, Article V, pp. 53-138.
- Metcalf, C. L. and W. P. Flint. 1951. Descriptive and Useful Insects, pp. 399, 401, 407.

## Canadian Importing Regulations . . .

Modifications have been made in the regulations on importing bees and queens into Canada. There are now prohibitions against such importations from any country except the United States on account of the possibility of importation of acarine or other diseases with such shipments. On U. S. shipments there must be an accompanying declaration that the food in such cages or packages has no honey contained therein.

Shippers are recommended to contact Dr. C. A. Jamieson, Dominion Apiarist at Ottawa, Ontario, Canada, ahead of the shipping season for clarification of necessary procedures.

## Georgia Recognizes Pollination Need

The Market Bulletin put out by Georgia Commissioner of Agriculture Phil Campbell on November 9 recommends the honey bee as vital to adequate pollination. According to W. B. Neville, Extension Bee Specialist, the yield of many Georgia crops can be doubled by the use of bees. Demonstrations in this line are being done through the 4-H Clubs with some 1,602 farmers in 102 counties in the state.



## OUR COVER

### Miss Barbara Johnson Minnesota Honey Queen

At the meeting of the Minnesota Beekeepers Association at Detroit Lakes on July 23, 1955, Barbara Johnson, a lovely honey blonde, was chosen to be Honey Queen. She was sponsored by Herman Ellingson of Odessa, Minnesota, and is a niece of Mrs. Ellingson. Judges of the Honey Queen Contest were Dr. M. H. Haydak, Mr. R. F. Bremer, Mrs. Matt Arens and Mr. J. D. Beals.

Barbara is 19 years old and comes from Fosston, Minnesota. She is a sophomore at the University of North Dakota, majoring in nursing. She belongs to Kappa Alpha Theta and plays the flute and piccolo in the University Band. She has also been a Red Cross swimming and water safety instructor.

The Minnesota Queen was chosen in a contest open to all. There were several other candidates. The queen contest added a new interest to the association meetings and, as Mr. Ellingson, president of the association, wrote, "Everyone agreed that the contest added a lot to our meeting, a nice light break between the more serious lectures and business of the meeting."

Miss Johnson received much publicity during her reign as Queen. She appeared at the Minnesota State Fair in robe and crown where she distributed honey recipes to the ladies and honey kisses to the children. She was interviewed on three radio stations during her fair visit and her picture appeared in ten newspapers. She presented the prizes for honey exhibits at the Fair. Barbara was awarded a watch by the Minnesota Association.

This cover picture is first of a series of honey queens which we hope to continue all year. More and more associations are trying out the honey queen idea and finding that it gives honey good publicity. Our congratulations to Miss Barbara Johnson and the Minnesota Beekeepers Association!



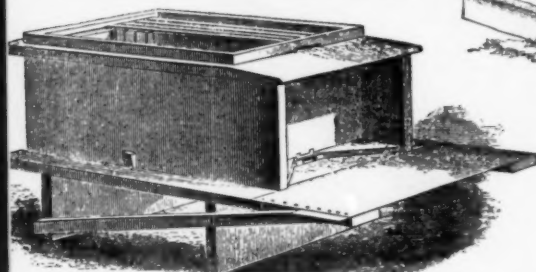
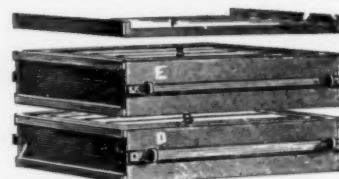
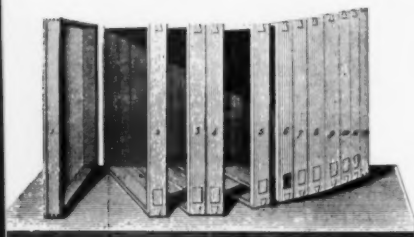
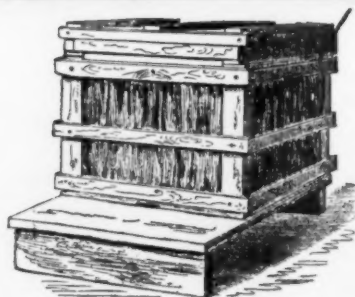
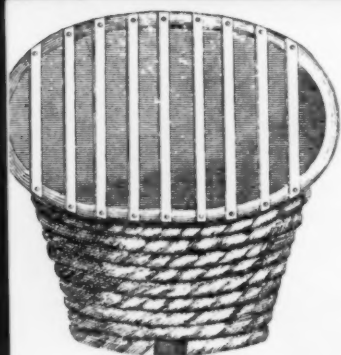
# The Home of the Honey Bee

## A Historical Summary

January, 1956

15





The Huish hive (top left) had only top bars for the combs but it was called a movable comb hive. The combs had to be cut loose for every inspection. The Huber leaf hive (left center) had closed end frames with one end of the frames hinged together. Finally came the original Langstroth hive (bottom left), the first completely movable comb hive. Moses Quinby, using Langstroth

frames, first used a straw hive (top center); then an eight frame, wooden hive (center). The Dadants, employing the Langstroth movable frame idea, constructed the first large, single-bodied hive (top right). Going in the opposite direction, many (as advocated by James Heddon) cut the hive down to the divisible, shallow hive.

# The Home of the Honey Bee

by G. H. Cale

Honey bees existed millions of years before man appeared on earth. When man accumulated enough wisdom to appreciate the food value of honey and later the value of beeswax he began a search for some way to control the abode of the bee to suit his needs. Bees in nature lived in trees, caves, rock holes, under overhangs, around places where man lived.

Probably because of the lack of easy living quarters, the honey bee was not widely distributed. Then when man provided the first simple "hive" the population of honey bees slowly increased. Early hives were no more than crude shelters like the Egyptian mud hives which have been in use for many centuries. Many early hives were made of straw. Some had wooden bars provided on which combs were built. The Greeks, centuries ago, used slats or bars so

the combs could be cut loose, and lifted out separately.

These bar hives were later used in various kinds of wooden construction and the combs, when cut loose, were removed on their bars either from the top or the sides, or the ends of the hive. There were even provisions for adding parts, so the colony could be extended upwards as we can do today. These bar hives persisted to the time of Dzierzon (who discovered that unfertile eggs produced drones and fertile eggs produced workers).

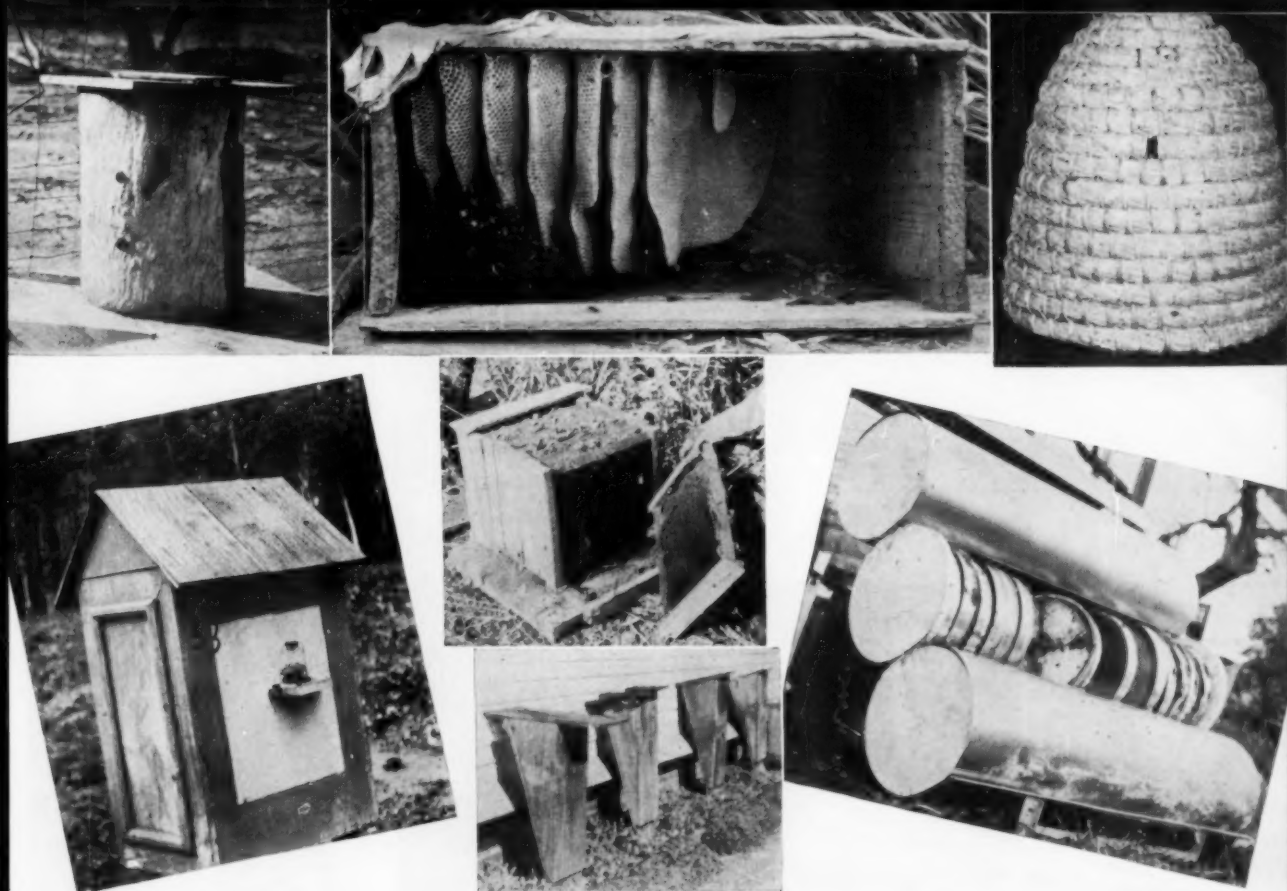
Before the day of the Langstroth hive there were frames in use. The Huber leaf hive had frames of uniform size all the way around, with hinged end bars at one side. This hive gave the blind naturalist a chance to find and explain many previously unknown facts about how bees live and work.

The Debeauvoys hive employed frames that fit perfectly in the hive but they were not movable. Berlepsch used spaces around frames but provided no top opening so the comb had to be drawn out through a back door. The Stewarton hive had frames but they were not freely removable, yet this hive came close to being like Langstroth's.

It remained for Rev. Lorenzo Lorraine Langstroth, in 1851, to discover the "bee space" (about 5/16 of an inch surrounding the combs and hive parts). Bees respect this space and they will not attach combs or parts or build between when this space is maintained. Langstroth had made a miraculous discovery.

Quickly he shaped a hive of boards from the lumber yard (which probably gave rise to the size of the original Langstroth hive) and made wooden frames to fill with combs to





Before "hive" days, "gums" (tree portions) were used commonly (top left) or just boxes (top center). Straw "hives" (top right) were more ornamental and to this day are often used. They have no frames and manipulation is from the bottom. Smaller straw "supers" are set on above. Still used, too, are side opening hives, like the Polish hive at the bottom left. Side opening hives are good if the frames are removable. Hives like this are in use

in the apiaries at the University of Pennsylvania in some yards. Hives similar to the Huber leaf hive were those with closed end frames, tied or bolted together (center). Strange shaped hives often appeared, like the triangular frame hives at the center (bottom) and round comb aluminum hives (bottom right) only recently proposed.

set in the hive. The bees respected at once his use of the bee space. The modern hive was born.

Langstroth patented his hive and the patent lasted until 1873. During those years many others made hives using the Langstroth principle, often in violation of his patent, resulting in considerable litigation. Up to 1900, hive discussion was frequent, often violent and abusive. Claims of perfection in hive construction were numerous. There was an avalanche of hives: the American, Cottage, Continental, Hicks, Kidder, Mitchell, Prince Arthur, Armstrong, Oatman, Gallup, North Star, Bay State, Adair, Triumph, Conklin Diamond, and many others.

All the considerations given to hive sizes were based on a single hive for the complete brood requirements of the colony. There were two schools of thinking: those who clung to the original size of the Langstroth hive, and those who thought hives should be larger or smaller than the

original Langstroth. Among those following the advocates of small (divisible brood chamber hives) were James Heddon and Danzenbaker. Quite a few beekeepers today still use the shallow or divided brood chamber and have learned how to manage it and to develop a plan to which this style of hive is adapted.

Probably the greatest separation in thought was between those who considered the single Langstroth hive sufficient in size and those who thought it was too small. The most famous advocates of a hive larger than the Langstroth were Moses Quinby and Charles and C. P. Dadant. They contended that the Langstroth hive was too small for the egg-laying capacity of a good queen in a single hive body. During this period of dispute, the large Dadant hive evolved and it is now used as a standard hive for brood rearing purposes in many parts of the world.

In conducting his experiments with hive size, Charles Dadant, in 1869,

said, "the capacity of the hive should be proportional to the fecundity of the queen." So the Dadant hive was based on numerous observations of the laying ability of the queens of that day, with the object of providing a hive large enough for the brood of the best queen in a single hive body.

One of the determining influences on hive size was the difference in management between the early era of comb honey production and the later one of extracted honey production. Extracted honey did not become common until after the passage of pure food laws which assured the public of a pure product.

Comb honey production demanded a small, easily handled hive so the bees could be forced into comb honey sections. On the other hand, the extracted honey producer needed a hive of much greater capacity for the storage of the largest possible crop of honey to be extracted.

In 1896, Doolittle said that the



The modern hive, result of a long evolution and many trials, has settled into what we call the "standard" hive. The British have a "standard" like the hive at the upper left, with protecting and movable outer shells. Some still use the former square frames and so-called long idea hive, as shown in the top center. A few beekeepers continue to like a permanently packed hive, or double-walled hive (center left). But by far the majority of beekeepers use movable frame hives in more or less standard sizes. The so-called large hive, like the Modified Dadant, in the bottom left

picture sits beside the ten-frame Langstroth hive. Some use the Dadant, like we do, but by far the largest number of beekeepers use the ten-frame Langstroth. The large Dadant hive at the bottom center, with two bodies, is often used, with about 5 shallow supers. The ten-frame hive at the lower right, with two for brood and five of same size for honey, holds about the same crop. Top right shows comparison between the large hive at the bottom, 10-frame in center and 8-frame at top.

majority of successful comb honey producers were using small hives. Previously, in 1883, Newman declared that there were more divisible Langstroth frame hives in use than all others put together. In 1878, James Heddon (later to join the ranks of shallow hive advocates) said it was his prediction that the 8-frame Langstroth hive would be the only hive used by the specialist beekeeper in a few years.

The result of 75 years of discussion and of trial and error led to the use of either the 8-frame Langstroth or the 10-frame Langstroth or the large Dadant hive. The present Modified Dadant hive was devised by Frank C. Pellett, with frames the length of the Langstroth but the depth of the old style Dadant and the earlier Quinby.

Also the discussion which had prevailed for so many years became obsolete, because of the improvement in combs brought about by improvement in bee comb foundation which

gave the beekeeper combs without all the flaws of earlier construction before the days of comb foundation. Combs of today, with reinforced foundation, are as nearly perfect as it is possible to achieve. Also improvement in the breeding of queen bees resulted in increased laying ability, demanding more room than a single hive can possibly offer.

So, finally, the facility with which any size of hive can be made into a large hive at will by the addition of parts led to the conclusion that any hive which could produce a maximum population with proper management was a satisfactory hive to use.

The hives used today, therefore, have been dictated by the bees and by their requirements, rather than by man and his ingenuity. It is of simple construction and it is used in multiple parts to serve any purpose.

The Langstroth hive calls for two or three hive bodies for brood for colony development to a peak popu-

lation. This has led to the plan of reversing hive bodies so that the emptier hive bodies are kept on top of the expanding brood until the time of the honeyflow and then restricted according to the demands of comb honey production or extracted honey production, with supers above the brood.

Today we have a few beekeepers who still use the 8-frame Langstroth hive. But, because of the extra handling and extra expansion the small hive requires, the majority use the 10-frame Langstroth. While the larger Dadant hive is used commonly in other parts of the world, there are many among our beekeepers in this country who also use it.

With any of these three hives, two or more hive bodies may be used for brood (even in the case of the large Dadant hive). The supers for production of honey to be extracted are usually the same size as the brood bodies in the Langstroth hive.

(Please turn to page 25)



# Bees Like Bushy Polygonum

by Margaret G. Griebe

**I**S the Bushy Polygonum officially recognized as a honey plant? Official or not, the bees swarm over it, and it must have a rich nectar.

It blooms at our place, just north of Detroit, Michigan, the last two weeks of August, counting from the first blooms until the last shaded ones are through. The blossoms are small, with a white calyx, no petals. We assume the honey is white, for certainly the nectar is.

Especially during bright sunshine, the bees gather so thickly they are found better than one to an inch along the flower-crowded stem. Our buckwheat also blooms at this time

but as it can only be worked mornings, the Polygonum happily compliments it and keeps the bees busy all day.

This Polygonum grows like a bush, head high, but dies to the ground for the winter. It belongs to the buckwheat family and the seeds remind one of that plant, and of rhubarb. It spreads underground very fast, and young shoots look like asparagus or bamboo. In fact, it is often called "flowering bamboo."

As for the scientific name, Gray's Manual and Harriet L. Keeler in "Our Garden Flowers," give *Polygonum cuspidatum*, although Miss

Keeler also gives *P. Sieboldi*. Gray adds that it was introduced from Japan. Miss Keeler also speaks of a second species, *Polygonum sachalinense*. This may be our kind, for she writes it is much like the other "but larger and more vigorous," and certainly both adjectives apply.

Miss Keeler also says "it has proved itself too much of a weed; indeed, one should think twice, possibly thrice, before planting any Bushy Polygonum."

However, our bees like it, we like the honey, and we have greatly extended our first, chance plantings.

Michigan



Bushy polygonum in full bloom in late August.

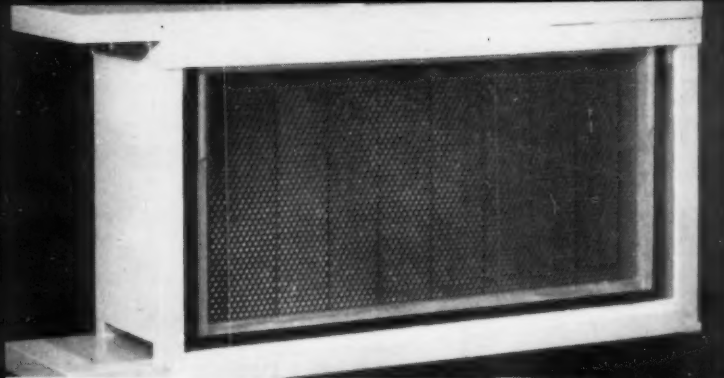


Close-up of flowering branches on which bees may be seen.



# Honey on the Roof

by Will Land



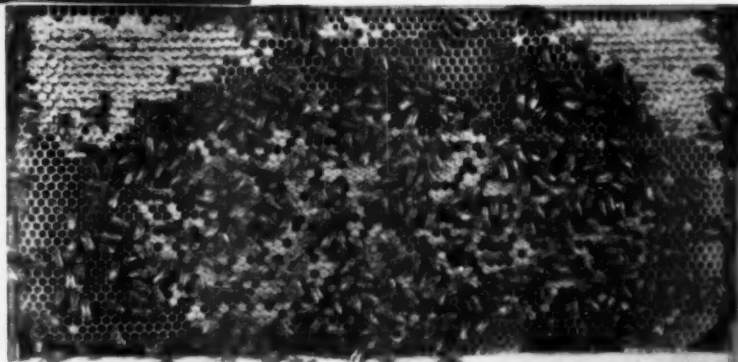
Above is the hive as it appeared when first completed—24 inches long, 12 inches high and 5½ inches wide. At the right is a comb soon after the bees started working.

**D**RINNON, Inc. of Macon, Georgia, is a very unlikely place to find a beehive. However, if you were to visit their roof you would find there a full-fledged, honey-making hive. Being in the photographic and engraving profession does not keep two of their energetic employees from enjoying the fascinating hobby of beekeeping.

Oscar Huff was the first to become interested in the habits of bees. Every day during the lunch hour he would relate some odd fact that he had learned about bees. Jimmy Middlebrooks, quite naturally, became interested too, and so a plan was formed.

The next few weeks were busy ones. First they obtained permission to establish the hive on the roof. They then built the hive, secured the bees and were in business.

This hive, however, is of special



construction. It is made of hardwood with a hinged top to permit easy removal of the frames, and has glass sides for observation purposes. The frames, of which there are three, were purchased at a local supply house.

Oscar inserted a frame of bees from another hive. To be assured that the bees would have ample food, a jar with a solution of sugar and water was placed outside the hive. The bees seemed happy in their new

home as they quickly settled down to work.

One day shortly after, Oscar rushed in from the roof. "The bees have found some pollen," he excitedly exclaimed. Sure enough, some were flying in loaded with pollen on their legs. Others were working away building cells onto the frames.

The next event was the discovery of an unusually large cell, about three times as big as the others. "Could it be?" "Maybe, just maybe,

Below are Jimmy Middlebrooks and Oscar Huff with comb that has been taken out for better observation. At the left, Miss Lucy Trasher, of Macon, proves that a lovely lass and a glass of milk, with honey and waffles, make this story complete.





it is a queen cell."

No other cell could ever have been watched as closely as was this one. Finally, when the cell was opened, there emerged a queen. At last the new hive was completed.

Within three short months a plan

was formed, a bee colony established, and a couple of fellows are having a wonderful time, studying some of the wonders of nature.

After this initial success Jimmy and Oscar are eagerly planning further adventures with bees. Oscar

plans to build bigger hives at home, while Jimmy has a very novel idea. He plans to construct a hive inside his house, with an entrance through the wall. Then he will be able to study his bees within his home.

Georgia

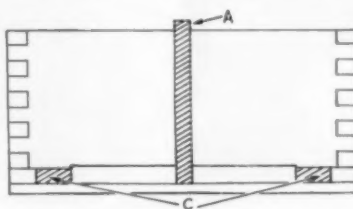
### Using Nuclei . . .

I have been using an adaptation of a nuc box inspired by Mr. Stewart's article on nucs in ABJ about 3½ years ago. ("An Ever-Ready Source of Queens" by Lee R. Stewart, March 1952, page 105) I use a pickup truck and I had 50 or 60 dovetailed hive bodies which were about ¼ inch too wide to fit into the pickup body with two others of standard measurement. They were a headache, so I made up 30 of them into two-division nuclei boxes, each division holding four frames. The bottom is nailed on, a partition extends an inch above the height of the hive body, and an outside partition about two inches wide prevents drifting from one entrance to the other.

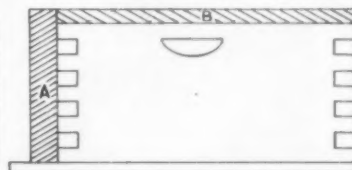
I have a heavy inner cover for each division. These nucs have given very good results, both for temporary housing of southern queens in the spring and for building up our own queens. I do not use any swarm cells—somehow I feel that this tends to breed back the swarming instinct.

With one nice frame of emerging brood and one frame with eggs and sufficient bees I seldom fail to raise a queen. As she is taken out for requeening, if there are not eggs left, a frame is added from some good colony.

Frank Lucore, Nebraska

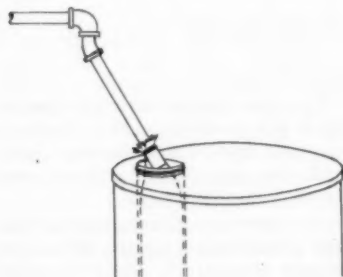


Front view—C—entrances. A—partition outside the nuc box to make a wall or division to encourage the bees to use their own front door.



Side view—B—inner partition, extending high enough to make inner covers fit flush.

### Cover for Honey Tank . . .



The above drawing shows how M. M. Moore, Waterloo, Iowa, acquires the advantage of a rigid, yet removable cover, for a honey tank. The cover is made of half-inch plywood. The collar which supports the outer muslin strainer sack is 12 inches in diameter and 2 inches high, has a rolled upper edge and a flange on the bottom, and can be made in any tin shop. The collar is positioned on the plywood cover, a mark drawn around it, the hole sawed out, and the collar nailed firm from the underneath side of the cover. The inner strainer sack of coarse cheesecloth is tied above a 2-inch coupling on the end of the 2-inch pipe. Both bag strainers prevent honey from falling and incorporating air and both may be pulled up and held for draining or replaced easily.

### Requeening Laying Workers

Last year I had a colony with laying workers which usually means plenty of trouble to get a laying queen in and bring the colony back to normal. I was in a hurry so just closed up the colony and went about my other work. The next day, after requeening another colony, I decided to see what would happen if I put an old queen in the colony with the laying workers. I picked her off the comb and set her down in front of the laying worker colony and let her walk in of her own accord. A week later to my surprise I found her in the hive laying just as well as she had in her original hive and the laying workers were gone. Since I keep a few nuclei, in addition to my full colonies, and there are plenty of bee-catching birds around my place, I may have 6-12 like this in a season. This year I had seven and used this plan with all of them and I have not lost a queen. Just pick up any queen from any queenright colony, and set her in front of the colony with the laying workers and let her walk in by herself. Don't use smoke or bother them in any way for about a week. Requeen the colony from which you "borrowed" the queen and you are back to normal again.

S. C. Squires,  
Chapel Hill, N. C.

### August Exports . . .

According to the Department of Agriculture at Washington there was exported about two million pounds of honey during August. Of this 800,000 pounds went to Canada and the same amount to West Germany. During the same period approximately 800,000 pounds of honey was imported, chiefly from Mexico.

### Hillary Still Exploring . . .

Our readers are no doubt familiar with the proposed joint venture of several countries to explore further, conditions at the South Pole, which apparently from former investigations shows that there may be vast supplies on the fabulous ice-hidden land.

From the United States Admiral Byrd is again to head the expedition.

The New Zealand Beekeeper (August) mentions that Sir Edmund Hillary, of Mount Everest fame, is to accompany the expedition from his own country. Not too far off Sir Edmund's beam, in any case, as there are mountains as high as 5,000 feet in the Antarctic. His experience under such difficulties may stand in good stead for the expedition.



Charlotte Waldron handles Caucasian bees without the use of veil or gloves.



Charles Waldron raises chickens to produce squabs.

## The Birds and the Bees

by Kay Mott

(Taken from an article in the Philadelphia Inquirer Magazine, May 16, 1954)

A bill seldom promotes romance. However, in this case it did. The bill read:

April 1947

From Charles W. Waldron, Malvern RD 1, creditor

To Charlotte Berkman, Mt. Airy, debtor

For refinishing 6 chairs .....\$30.00

Credit for holding Charlotte's hand .....\$35.00

Credit .....\$ 5.00

**T**HAT was how Charles W. Waldron, a 69 year old Chester county beeman, underscored the one note of romance during his six-month acquaintance with Charlotte Berkman, 45 year old clerk on a Mt. Airy draft board. In addition to the 24-year difference in ages, their backgrounds and lives ran far apart. Their chances of meeting, let alone getting married, were slim. Waldron, whose apple-cheeked health belies his age, had strayed little farther from his great-grandmother's farm than a fling at house painting and a year at West Chester Normal School. Miss Berkman had two college degrees, was an accomplished violinist, had taught school and done

landscape gardening.

Honey brought these two together. Prescribed for Miss Berkman's mother, it was scarce during the war. In her search for it, Charlotte went to Waldron's farm and fell in love with the old house. The antique furniture and the exotic bird she saw inside the farm house interested her. The owner introduced her to the bird, Tony, a troupiel, one of his married daughters had brought from South America. He told her he had restored the furniture to fill time since his wife's death. Miss Berkman bought some honey and planned to buy a hive from him in the spring. Mr. Waldron offered to refinish some chairs of Charlotte's grandmother's and she brought them to him one by one when she came to get more honey. He coached her in bee lore in preparation for spring when she would get her hive. But she couldn't persuade him to mention prices of refinishing or of the hive.

Charlotte kept up her visits and felt sympathy for Mr. Waldron's loneliness. She began to note that he had used his naturally keen observation to amass a fund of knowledge and could talk about it inter-

estingly.

The hand holding occurred one day when she went to visit. Charlotte says she didn't think about it again until she got the bill. They were married the next year.

By then Charlotte knew a good deal about bees and Mr. Waldron's interest in livestock—Tony, the bees, cats, geese, ducks and homing pigeons—was infectious. Charlotte began to suggest ways of marketing honey and started Mr. Waldron raising squabs for which she found customers. He now concentrates on the 80 to 100 pairs of Silver King, White King and Carneaux pigeons which produce the squabs. Mrs. Waldron handles the 50-some hives of Italian and Caucasian bees. They extract about half a ton of strained honey and take another half a ton of comb honey from their colonies each year. During the busy season they sell about three dozen squabs a week. Both raise crops and run the tractor, tend the raspberries and apple trees and make cider.

"We market apples, cider and berries, but mainly the flowers are a source of honey for our bees," Mrs. Waldron says.

# Honey and Your Diabetes

No. 10

by D. C. Jarvis, M. D.

**L**ET us now turn to a consideration of a patient who has had diabetes mellitus for 15 years. He follows each day a well-organized plan which includes the daily use of insulin. Our patient this time is a married man, 35 years of age, 5 feet, 7 inches tall, of intermediate build, a movie machine operator. He has had diabetes mellitus for 15 years. He tests his urine for sugar each day. He has followed for years a carefully worked out insulin schedule which controls the sugar in his urine. His daily insulin schedule calls for 65 units of insulin each day. At 9:30 each morning he gives himself 40 units of protamine zinc insulin and also 10 units of ordinary insulin which is 15 minutes before his breakfast. At 4:30 in the afternoon of the same day, which is one-half hour before his supper, he gives himself 15 units of regular insulin. This insulin program works well, there being no evidence of too much insulin at any time. He does, however, feel very tired all the time and the latter part of the afternoon he experiences a let down in physical energy. During the evening it is very difficult for him to keep awake. He always has a drowsy feeling. One of his friends, for whom I had prescribed apple cider vinegar for its acid and potassium content, was enthusiastic about its ability to relieve fatigue and suggested to him that he try it.

On January 25 he started taking apple cider vinegar, taking 2 teaspoonfuls in a half glass of water at 11:30 in the morning and again at 4:30 in the afternoon which was one-half hour before his morning and evening meal. Because the potassium in the apple cider vinegar and the potassium effect in the body resulting from the insulin added up to too much potassium he developed a potassium shock which he referred to as an insulin shock. During the night of January 27 he developed insulin shock and at 3:00 A.M. was obliged to take some sugar to relieve the shock. On January 28 he developed insulin shock at 9:00 P.M. and was obliged to take some sugar. At 11:00 P.M. of the same day he still had evidence of having taken too much insulin and was obliged to take some more sugar.

The following day he came to the office in order to learn the explanation of what had happened. He stated the apple cider vinegar had taken away his tired feeling which appeared during the afternoon and he was no longer drowsy during the evening. He was able to finish the day's work without being tired. Because of the relief from drowsiness and fatigue the apple cider vinegar gave him, he wished to continue it but he was concerned about the symptoms of too much insulin appearing each day. I suggested he gradually reduce the daily dose of insulin in an effort to find out how much was needed to keep his urine free from sugar. In time he learned to reduce his daily insulin intake 15 units.

This man has now taken apple cider vinegar as a source of potassium for 10 years and occasionally takes honey which has never produced sugar in his urine. He now looks upon apple cider vinegar, honey and insulin as being sources of potassium. He uses the insulin injections to keep his urine free from sugar. He uses the apple cider vinegar and honey to control body fatigue and give him the energy needed to do the day's work.

His conclusions at the end of 10 years are as follows: 1. Now the dose of apple cider vinegar is one-half inch of apple cider vinegar in an ordinary drinking glass with the rest of the glass filled with water. This is taken at breakfast and supper each day. Trial and error has shown this to be the most effective dose for him. 2. Follows the same diabetic diet as he has always followed. Has plenty to eat. Is never hungry between meals any more, as he used to be before he started taking the apple cider vinegar. 3. Never has a feeling of drowsiness at any time now. 4. Has lost his pod. Has a normal waistline now. 5. No longer has chronic fatigue. Continues to run a photographic studio in addition to his work as a movie machine operator. 6. No longer has intermittent swelling of hands, feet and waistline. Present weight of 165 pounds does not fluctuate but remains the same. 7. Is no longer irritable or easily upset. Sleeps well at night. 8. Has no head colds or

other sickness now. No absence from work on account of being sick.

Returning to our original question "Can a patient with diabetes mellitus take honey." The answer is yes, because, according to Vermont folk medicine, this is a potassium deficient disease. Honey is a good source of potassium which the individual with diabetes mellitus seems to need. In addition, honey supplies the four essentials of an adequate nutrition learned from years of study of the dairy cow when she is on her own on a natural pasture. These four essentials are first, the food before it enters the mouth must be acid in reaction in order to lower the baking soda content of the blood. Second, the daily food intake must contain potassium in order to speed the flow of tissue fluid. Third, there must be trace minerals in the daily food intake in order that each body cell may carry on its vital activity at a proper rate of speed. Fourth, there must be fruit sugar called levulose to maintain a thin trickle of sugar continually passing through the intestinal wall to supply the needed energy required for physical effort. The dairy cow does not read the literature relating to modern nutrition as conceived by man but by instinct accepts and follows nature's plan for adequate nutrition. Little children and those living close to the soil have the same nutritional instincts the dairy cow has. When so-called civilized peoples leave the land of childhood they leave these childhood instincts behind and we observe all too often the sickness that follows the effort to rearrange nature's well organized plan for our nutrition and break her nutritional laws.

Do you have any how-to-do-it plans, short and well told? If so send them in and we'll advance your subscription a month for each one we use.

## About Laughing Gas . . .

We have used it for requeening. Find the old queen and kill her. Cover the hive and use the gas in front. After about five minutes, open the hive and put the young, laying queen in with the bees and close. We have often checked this and always find the young queen doing nicely.

John Kabrick  
Independence, Mo.





## Estimating the Percentage of Field Bees Working Alfalfa

by Marshall D. Levin

U.S.D.A., Agr. Res. Ser., Entomology Research Branch

**A**PICULTURISTS at the Legume Seed Research Laboratory at Logan, Utah have known since 1947 that most honey bees working alfalfa for nectar have a mass of alfalfa pollen in the underside of the neck region, or proboscis fossa (Grout, 1949). G. E. Bohart, in 1950, observed that even as far north as Alberta all 18 bees that he collected from an alfalfa field had alfalfa pollen in the proboscis fossa. Canadian beekeepers and scientists rarely see nectar collectors trip alfalfa blossoms. Vansell (1955) also reported that bees in California had fossal pollen. In 1952 I began to make some observations to find out if the presence of these deposits of pollen could be put to use.

To find out how many bees working in alfalfa had this mass of pollen under the neck, I looked at 158 bees collected from several alfalfa fields in northern Utah. Ninety-one per cent of them had fossal pollen. Under the microscope I confirmed that this was alfalfa pollen.<sup>1</sup> When the alfalfa blossom is tripped the blow of the staminal col-

umn as it strikes the bee places the pollen in the fossa. Apparently she cannot remove all the pollen from the fossa and a sizable lump accumulates (fig. 1). When the bee no longer works alfalfa blossoms, the lump gets smaller and more compact; in a day or two the bright yellow color of the fresh accumulation fades, and in a few more days it disappears (fig. 2).

The next step was to examine field bees collected at hive entrances. I collected one set of samples in June from colonies located near the foothills in North Logan, Utah. Many sources of nectar and pollen are available here. Another set of samples was collected in August from hives in seed fields. Alfalfa was the main forage plant for these bees. You will find the data from these samples summarized in Table 1.

Some of the fossal pollen from the bees near the foothills turned out to be from clover or vetch. Sometimes it was mixed with alfalfa pollen. Often the shape of these accumulations was different from that of alfalfa pollen. Instead of a compact lump, the pollen might be distributed along the basal part of the tongue.

When I discussed these facts with my co-workers, we decided that the presence of alfalfa pollen in the proboscis fossa might be a useful tool for estimating the percentage of field bees in a colony working in alfalfa fields. To get more information on how to use this new technique, I carried out the following experiment. My co-worker, William P. Nye, helped me move two colonies that had been in the mountains for about 1 month to an alfalfa field in bloom. Two colonies that had

Table 1. Occurrence of fossal pollen on honey bees collected at hive entrances, Cache Valley, Utah, 1952.

Period	Location of Apiary	Number of Bees Examined	Per cent of Bees With Fossal Pollen	Per cent of Fossal Pollen That Was Alfalfa
June	Foothills	241	34	92.4
August	Seed field	410	51	99.9

1. Woodrow (1952) and Minderhoud (1954) report that pollen accumulations in this location are found on bees working red clover (*Trifolium pratense*) and white clover (*T. repens*).

You can see that practically all the fossal pollen on the bees located in the seed fields was alfalfa pollen.

been in the alfalfa field at least 2 weeks were moved to the alfalfa-free mountain location. For 5 days,



Fig. 1. Alfalfa pollen in proboscis fossa of honey bee. (Photos by W. P. Nye, United States Department of Agriculture)

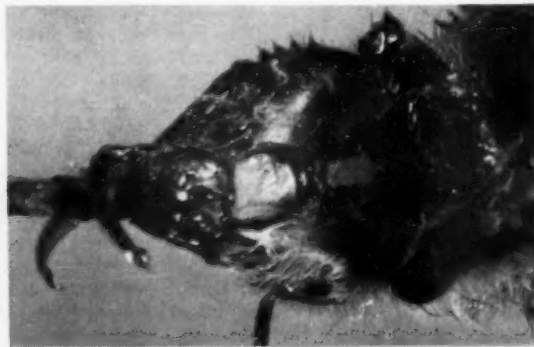


Fig. 2. Proboscis fossa showing bare membrane behind lorum with no pollen accumulation.



starting the day after the moves, I collected samples of field bees from the entrances of the colonies. Table 2 sums up the data from these samples.

Table 2. Occurrence of fossal pollen on bees collected at entrances of hives in two locations, Cache Valley, Utah, 1952.

Date (July)	Number of Bees Collected		Per cent of Bees With Alfalfa Pollen in Fossa	
	Mountain	Alfalfa field	Mountain	Alfalfa field
14	34	30	41	0
15	40	34	30	12
16	87	47	17	30
17	88	58	15	22
18	75	59	4	41

As you can see, the percentage of field bees with fossal pollen increased for 5 days after they were moved into the alfalfa field. During the same period the bees which had been moved away from the alfalfa lost their fossal pollen completely.

Consider this technique for a while and you will see that there are two possible sources of error that will

have to be guarded against. We have seen that as many as 10 per cent of the bees in an alfalfa field may not have fossal pollen. This fact could lead us to underestimate

the percentage of field bees working alfalfa. It might be best to sample the bees in several nearby fields to find out just what the correction factor should be. The second chance for error is connected with the 5 days it might take for fossal pollen to disappear from a bee after she leaves alfalfa. Because of this, the percentage we get from our entrance

samples could be an overestimate of the actual number of bees working alfalfa. From what we know of the flower constancy of bees and their working habits, we can expect this error to be too small to worry about. Only if the number of alfalfa blossoms were being rapidly reduced through being cut or maturing into seed would this last factor be of importance.

If the pollination researcher takes everything just discussed into consideration, he may find some practical uses for this technique of estimating the percentage of field bees working alfalfa.

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#### The Home of the Honey Bee—

(Continued from page 18)

Shallow supers for honey are usually employed with the Dadant hive but many also use similar depth or somewhat shallower supers for honey in the Langstroth hive.

We have just said that the improvement of queens added greatly to the requirements for brood space in the colonies. Queens of the future may step up this demand so that the management of hives for expansion will become still further intensified and the use of multiple parts will probably increase the use of the reversible plan of management. When we add to this the possibility of increasing the population of the colony for honey production by the use of two queens instead of one, then the use of multiple parts will be still further emphasized and will probably be the only procedure which can be used. This may greatly increase the cost of equipping a colony of bees for heavy production but it will also bring about more skillful management and the increase in production will justify the cost. It will make beekeeping a profitable profession.

#### Bee Bee Tree

Beekeepers are showing interest in getting seeds of this tree, described in our December issue by Fred W. Schwoebel. He has seed and will send it free to anyone sending him a self-addressed envelope. Address: Fred W. Schwoebel, Curator, Langstroth Bee Garden, Morris Arboretum, Chestnut Hill, Philadelphia, Pa.

#### A Book on Royal Jelly . . .

We reported in an earlier issue of the book in French on royal jelly by Raymond Dubois of France. This book has now appeared in the English translation "The Miracle of Royal Jelly." A 110 page nicely bound book giving to best advantage, the experiments and results, both of scientific and lay efforts, with royal jelly for human use. The book will make interesting reading.

One factor advanced in the book is the possible importance of radioactivity both in pollen and in royal jelly itself as a constituent. This is advanced by Dr. Bordas of France who has no light standing in the scientific profession of that country.

The book sells for \$2.50 postpaid and may be obtained of the publishers, L. R. Smith & Co., Box 2003, Hartford, Conn., or from the American Bee Journal. We have stocked some of these books for the convenience of our subscribers.

#### Bee Taxes in Wisconsin . . .

The "Tax Outlook" reports that the 1955 Wisconsin Legislature has increased the occupational tax on the State's beekeepers. Formerly the first colony was taxed at 25c, additional ones at 10c. The new law now taxes each colony at 25c.

#### Colorado H.A.C.

##### Becomes Inactive

The Colorado Honey Administrative Committee is now in an inoperative status. A recent referendum did not carry as required by the Colorado Marketing Act. Only 49 beekeepers returned their ballots out of 207 sent, and they did not consist of a producing figure in excess of the 66% of the total annual honey production in the state. The C.H.A.C. can be restored as a functioning organization if the beekeepers wish. They can appoint representatives to discuss the matter and they may have done so at the Denver meeting.

#### World of the Bees . . .

This is a 210 page book by Gilbert Nixon, distributed by The Philosophical Society of 15 East 40th Street in New York City. Devoted to bees in general with discussion of the social bees, leaf cutter bees and humblebees, its main stress is on the honeybee, probably on account of its apex of achievement as a social insect and its necessity under present conditions to the survival of man through its pollination influences. The book sells for \$4.75 and may be ordered direct from the publishers above.



# Nosema Disease is a Puzzling Problem

by Leslie L. Ellis\*

"It is requested that all beekeepers interested in supporting research on Nosema disease, bring a case or so of honey with them to the National Meetings to be held in Biloxi, on January 23-26, 1956. The money thus raised by the Mississippi Beekeepers Association will be deposited with the Mississippi Agricultural Experiment Station for **Nosema** disease research at Mississippi State College."

**D**URING the past several years, quite a bit of research has been carried on in an attempt to find satisfactory methods and drugs to control the parasite, **Nosema apis**. Most investigators welcomed the advent of fumagillin as the solution. Under the trade name of "Fumadil B," it is administered as a salt, along with other materials (buffers). Some investigators say that it is not only an effective control but that bees, so treated, appear to be more vigorous, healthy and active, even when there is no apparent **Nosema** infection present. The research that supports these conclusions was well planned and carefully conducted.

However none of the research so far covers the infinite number of variables that may arise to affect the results when one considers the immense number of apiaries in a country as large as the United States. So, sweeping generalizations derived from the initial research do not present enough data to apply to the varied and diverse conditions under which bees are kept today. What has been said about fumagillin is true and well presented but may apply mostly to conditions in the areas where the research was done.

In Mississippi, in the spring and early summer months of 1955, three large commercial beekeepers treated

certain yards for various lengths of time with fumagillin, yet all tests showed that **Nosema** was present in quantities comparable to the infection in untreated colonies. Subsequently the infestation in treated colonies was brought under control, but also **Nosema** disappeared in the untreated colonies, apparently from natural causes. Many of the bees in the treated colonies, free from **Nosema**, were shipped to buyers, some in foreign countries. Reports from one country that tests import bees, stated that these particular bees were some of the most vigorous and healthy ones the seller had ever sent.

However, the cost of obtaining **Nosema** free bees, and more vigorous and healthy bees, must be considered by the bee shipper. If he can get a sufficient increase in volume of business the cost perhaps can be absorbed. On the other hand, if he must charge his customer, he may lose business in competition with other breeders.

The usual recommendation for feeding fumagillin is to use it in sirup feed at least a month before shaking packages. Most breeders would interpret this to mean, for instance, feeding during March for the beginning of shipping April 1. During this month three fumagillin feedings would cost about 60c total per colony. If the cost of sirup must be added, the cost could be anywhere from \$1.00 to \$1.50 per colony. If the "take" in packages is six per colony, then the cost for the protec-

tion may be between 15-25c per package.

There may be other materials that will do as well and cost less. As far as vigor goes, **vioform** and **quinine bisulfate**, in research now in progress at Mississippi State College, result in an increase in apparent vigor at a much lower cost. From an economic point of view expensive treatment is unsatisfactory if a simple and less costly method can be found. The beekeeper needs something to give him relief that he can more easily afford. Research in the treatment and control of **Nosema** has been aimed at complete cure and eradication and perhaps this is equivalent to finding a complete cure and preventive for the common cold in humans.

The breeder needs something to insure the delivery of **Nosema** free bees to his customers, not something to kill all infection in all of his yards. He needs something he can add to the food in his shipping cages and queen cages which can be consumed during transit.

We need a wide screening of drugs in search of cheap and satisfactory treatments. Research is lacking when one considers what is biologically known about the organism itself. Where does it come from and where does it go? Under what conditions does it survive best? Where do the bees come in contact with it? What are its life cycle and biological relationships?

**Nosema** is a tough nut, yet to be cracked.

\* Associate Professor, Department of Zoology and Entomology, Mississippi State College.



# Beekeeping in Cuba

by Gonzalo S. Ordetx

**I**N all probability, honey bees were introduced in Cuba on the cession of Florida to the English, in 1763. At that time it was decided by the Spaniards to remove to this island the settlers established in East Florida and every colonist beekeeper brought along with him brown bees in log gums.

The most authentic record states that as far back as 1770 the first shipment of beeswax took place—125 pounds—from the port of Havana. In 1776, the amount exported was 15,060 pounds. Since then, wax production in Cuba expanded steadily until the War of Independence. In 1865, beekeepers produced about 5,275,000 pounds of beeswax for export, an amount that was a record for the "bee-gums industry" in the colonial era.

At present, modern beekeeping is very much extended over all the island. The number of colonies of bees per apiary is usually from 30 to 100, the average being 60. There are approximately 800 commercial beekeepers in Cuba, but only a few professionals own up to 1,500 or 2,000 beehives. The vast majority of the apiaries are attended by their owners. A number of apiarists also develop their commercial bee enter-

prise with the pecuniary aid and under the technical supervision of export firms, who buy their entire crops. The beekeepers were organized recently in "Asociación Apícola de Cuba" (Cuban Beekeepers' Association), which has sections in each province of the island.

The best locations for commercial beekeeping are in the mountainous regions, where few modern hives are found, and for which reason vast quantities of nectar go to waste. In those remote districts it is necessary to carry the honey and wax on mule's back for it is not feasible to transport it on trucks or oxcarts.

There were in Cuba 217,079 colonies of bees on hand in 1945 compared with 169,876 colonies in 1936, an increase of about 27 per cent for a nine-year period. These estimates are based upon reports from agricultural inspectors to the Cuban Ministry of Agriculture. (About twenty per cent of the colonies included in the census are in old-fashioned hives.)

**Swarming.** In Cuba there are two critical swarming periods, one during September and October—before the main honeyflow, and the other during March and April—near the close of the honey season. Measures taken



Gonzalo S. Ordetx, Havana, specialist on tropical honey plants and Vice President of the Asociación Apícola de Cuba (Cuban Beekeepers' Association).

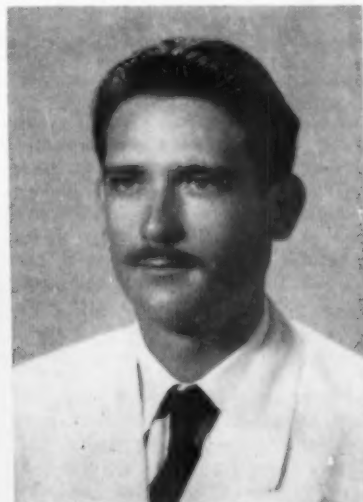
by professional beekeepers to reduce the tendency to swarm are: dividing strong colonies; removal of some of the central combs of brood to be replaced with empty combs; and cutting out queen cells.

**Diseases and insect pests.** In general bee diseases are not a serious factor. Both American and European foulbrood occur to some extent, and we have some Nosema and paralysis but Acarine disease is unknown. The wax moth is the worst enemy.

**Races of bees.** A number of more progressive apiarists use the three-banded or leather-colored Italian honey bee, but by far the greater



Left, a modern apiary in Santiago de la Vegas, Cuba. (Photo by Sotolongo)



Ing. Dario Espina, Havana, President of the Cuban Beekeepers' Association. He is one of the largest beekeepers, operating 2000 colonies in Matanzas Province.

number still favor the Brown Caribbean bee, a strain of the brown race which has been bred in this country for nearly 200 years. The Mountain Gray Caucasian race was introduced to the island by the writer about three years ago.

**The honey crop.** The honey season extends more or less from the middle of September to April or May. The main flow of nectar occurs during December, January, and February. In some districts, where the greater part of the original vegetation has been replaced by cultivated plants, there is a dearth period of nectar in June and July. But in general, due to our mild and uniform climate, there is almost always some nectar for the bees to collect. The honey yield varies with the season and the location. In Oriente and Las Villas provinces, honey crops of about 400 pounds per colony are not uncommon in a good year, but the average surplus in frame hives is about 150 pounds. For the country as a whole the present average is 50 pounds per colony.

In 1943, at Guanahacabibes Peninsula, a sparsely inhabited district in the western part of the Pinar del Rio Province, a crop of 1,200 pounds of wax and 90,000 pounds of extracted honey was secured from a modern apiary of 150 colonies. It is the largest honey crop reported in Cuba in recent years for a single bee yard. The production per colony averaged 600 pounds.

**Principal honey plants.** The number of honey-yielding plants in Cuba is equal to that of other tropical countries whose flora is rich and varied; but we don't believe that for the whole island the species productive of surplus exceed three dozen, and plenty of those are important only in limited areas. The most important honey plants are the white aguinaldo, the pink aguinaldo, and the royal palm. These three give at least 40 per cent of all honey in Cuba. The aguinaldos are vines belonging to the genus *Ipomoea* of the Convolvulaceae family. The white variety blooms about Christmas time, and yields one of the finest honeys in the world. (See American Bee Journal, February, 1949.) The royal palm (*Roystonea regia*) grows almost everywhere on the island and may well be called the national plant of Cuba. This tree blooms during any time of the year, although by preference throughout October and November. The honey is golden, and excellent in flavor. Other plants valuable for nectar are: bejuco lenatero (*Gouania polygama*), bejuco de tortuga (*Bauhinia heterophylla*), and coral vine (*Antigonon leptopus*). Bejuco lenatero and bejuco de tortuga bloom in September and help build up the colonies for the aguinaldo flow. Coral vine is planted extensively for ornament and is almost a perennial nectar source. Among fruit trees which should be mentioned are: avocado (*Persea*

*gratissima*), mango (*Mangifera indica*), mamoncillo (*Melicocca bijuga*), pomarrosa or rose apple (*Eugenia jambos*), and the citrus. The romerillo de costa (*Viguiera helianthoides*) is a weed growing commonly in calcareous and gravelly soils near the coasts; sometimes it covers the fields so thickly that no room for other plants can be found. It yields large quantities of surplus honey at the time the white aguinaldo is blooming. In the hilly regions the surplus comes chiefly from coffee (*Coffea arabica*), baria (*Cordia gerascanthus*), dagame (*Calycophyllum candidissimum*, guara (*Cupania*, spp.), pinón amoroso (*Gliricidia sepium*), macurije (*Matayba apetala*), and siguaraya (*Trichilia glabra*).

As regards cultivated plants, ajonjolí (*Sesamum orientale*) and banana (*Musa*, spp.), deserve special mention. Many acres of ajonjolí are grown in some sections of the western provinces, which yield well in favorable seasons. Banana is cultivated over the greater part of the island; it blossoms over an extended period and gives the bees much pasture to work upon. The beekeeper in Cuba does not have any problems for lack of pollen. Even in the so-called period of scarcity of honey, pollen-yielding plants in abundance are found in bloom.

Havana, Cuba

## Questions . . .

What about bottling white sweet clover honey. I have kept bees for 20 years and this is the first time my bees made a crop of clover. Usually the honey is from other sources. Purser, in July, says to let it set for a while, then heat to 140 degrees; then bottle. Will this affect flavor or color? Will it keep it from granulating?—J. H. Barry, Marlin, Texas

Purser's advice is sound. His plan does not affect flavor or color, provided the honey does not stay at the high temperature for too long a time. It should be cooled and bottled at once and the honey usually will not granulate, at least until it is sold.

We have been having trouble with fermentation in section honey. How can this be stopped?—F. O. Bishop, Blacksburg, Va.

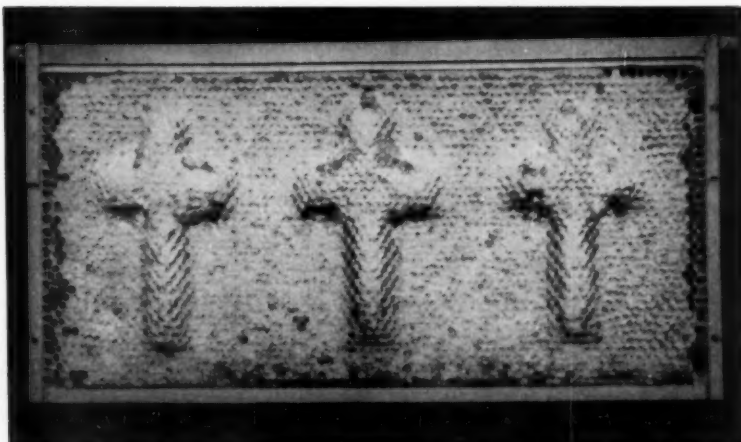
The moisture content of the honey is too high. The use of chemicals to reduce humidity is too slow and unsatisfactory. We use a dehumidifying unit built by the Carrier Corporation. Similar units are obtainable from several manufacturers. To check the moisture in either comb or liquid honey we use a small refractometer made by Bosch and Lomb although the cost is high for the small beekeeper. If honey samples are sent to your state university, you should get a moisture report so you will know just how much mois-

ture the honey contains.—Carl E. Killion, Paris, Ill.

We urgently need information regarding something to counteract severe allergy in a boy who was stung by bees. Immediate danger has been averted but we must be prepared for any emergency.—Mrs. Paul F. Oxford, Bangor, Pa.

The drugs which are used in cases of severe reactions towards bee stings are antihistamines. There are different kinds of those so it's up to the physician to choose the right one. Two have been used here in some cases successfully: Pyribenzamine and Theophorin. In some very severe cases effective antidotes are injections of a 0.1% solution of either adrenalin or ephedrine. In every case a physician should be consulted.—Dr. M. H. Haydak, University of Minnesota, St. Paul, Minn.





Dr. J. E. McKee, of Alpine, N. Y., and Largo, Florida, furnished this picture of a comb of honey his bees made which he calls "The Three Crosses of Calvary." Dr. McKee recently established a record in the production of \$100 worth of chunk comb honey from one colony for four successive years. The design was produced by placing a recessed wooden frame next to the comb.



One of the national awards for exhibiting honey in 1954 went to Clarence Pfluger of De Pere, Wisconsin. He won first place for white honey in the American National Honey Show. Pictured above is a jar of the honey and the Woodman trophy won by Pfluger. The other "honey" is the daughter of the Pflugers.

## Recipes---

### HONEY NOUGAT

- 1 cup honey  $\frac{1}{4}$  cup powdered milk, nonfat  
Egg white—2 eggs  $\frac{1}{4}$  teaspoon salt

Put all ingredients in top of double boiler. Beat for 25 minutes. Remove from heat and mix in nut meats or nut meats and dried fruit. Less beating makes a soft center candy. The soft stage of this candy also makes a good marshmallow whip.

### HONEY FUDGE

- 2 cups sugar  $\frac{1}{4}$  cup cream  
 $\frac{1}{4}$  cup milk  $\frac{1}{4}$  cup honey  
2 squares chocolate

Combine ingredients and cook until spoonful forms soft ball in cold water. Add 1 tablespoon butter, 1 teaspoon vanilla, nuts, and beat. This fudge is always creamy.

—Mrs. Clyde Hunt, Iowa

### SOFT CHOCOLATE CARAMEL

- 1 cup honey  $\frac{1}{4}$  cup powdered milk  
Egg white— $\frac{1}{2}$  egg Semi-sweet chocolate—  
1 tablespoon butter 4 squares

Beat honey and egg white in top of double boiler for 15 minutes. Remove from heat, add butter and chocolate, beat thoroughly by hand. Add powdered milk and mix again, heat a little if necessary to get powdered milk well mixed with other ingredients.

(Recipes taken from "Honey Candies and Honey Spreads"—Pennsylvania Agricultural Experiment Station, Univ. of Pa.)

### RHUBARB HONEY JELLY

- 2 tablespoons commercial pectin crystals 1 cup rhubarb juice  
1 cup HONEY

Wash, scald and cut rhubarb into 1-inch lengths. Place in preserving kettle. Add enough water to prevent sticking. Cook slowly in covered pan until soft. Strain in jelly bag. Measure juice; add pectin and stir vigorously. Bring to boil. Add honey and continue to boil until jelly test is reached (222° F.) on jelly thermometer. Fill hot, sterilized jars with jelly. When steaming ceases cover with thin layer of paraffin wax.

I have made this jelly often, and find that its unusual flavor is an appreciated treat.

—Mrs. J. A. Chandler, B. C., Canada

## In Memoriam

### Mrs. C. B. Piper

In Somerville, Tenn., Mrs. C. B. Piper died very suddenly from bee stings while she was working with her bees.

\* \* \*

### Irving O. Jones

Harlan, Iowa—Irving O. Jones, 49, died from the accidental discharge of a shotgun, Oct. 4, near Aberdeen, South Dakota. He had gone early in the morning to a bee yard to kill skunks. There had been a rain. He slipped from the running board of his truck and the charge struck him in the chest. Mr. and Mrs. Jones had made many friends in Harlan and Aberdeen where they operated bees during the last five years. They came from Montgomery, Alabama.

L. D. Taylor,  
Harlan, Iowa.

\* \* \*

### Former Root Dealer Passes

Funeral services for W. H. Starrett, widely known bee supply dealer of Indianapolis, were held Thursday, November 17 at Flanner & Buchanan Fall Creek Mortuary, with burial at Odon, Indiana. Mr. Starrett, a native of Ohio, had lived for the past 40 years in Indianapolis where he operated the A. I. Root Company bee supply store until about one year ago. He was well known to beekeepers throughout the state of Indiana and was very active in the affairs of the Indiana State Beekeepers Association.



**Thirteenth Annual Convention  
American Beekeeping Federation,  
Inc., and Allied Organizations**  
**Buena Vista Hotel**  
**January 23 to 26, 1956**  
**Biloxi, Mississippi**

**Saturday, January 21**

10:00 A. M.—Executive Committee, the American Beekeeping Federation, H. A. Schaefer, President, S. J. Watkins, Vice President.

**Monday, January 23**

9:00 A. M.—Board of Directors, the American Beekeeping Federation. Apiary Inspectors of America, F. B. Paddock, President. Directors, the American Honey Institute, R. F. Remer, President. (Tentative) Registration. Probable meetings of affiliate organizations, as they arrange.

1:30 P. M.—Call to Order. Invocation — Rev. F. L. Applewhite, Tylertown, Mississippi. Address of Welcome—Hon. S. Conley, Commissioner of Agriculture, Jackson, Mississippi. Response. President's Address — H. A. Schaefer. Keynote Speech—D. C. Green, Deputy State Conservation Commissioner, Soil Conservation Service, Jackson, Mississippi—"The Importance of the Honey Bee in Soil Conservation."

8:00 P. M.—Honey Industry Council of America, R. B. Willson, Chairman. Informal meetings: Illustrated lecture by Dr. E. J. Dyce, Cornell University, Ithaca, New York — "Gadgets for the Bee Yard and Honey House." Probable meetings of Affiliate Organizations.

**Tuesday, January 24**

7:30 A. M. — State Membership Chairmen—Breakfast.

9:00 A. M. to 12:00 Noon—Research Program: Clarence Benson, Chairman, Research Committee. Honorable Jamie Whitten, Representative from Mississippi—"The Appropriation of Funds for Agricultural Research." (Tentative) Dr. B. T. Shaw, Administrator, Agricultural Research Service, United States Department of Agriculture, Washington, D. C.—"Agricultural Research by the United States Department of

Agriculture." (Tentative) Dr. Clay Lyle, Dean and Director, Division of Agriculture, State College, Miss.—"Research and Extension at the State Level."

1:30 P. M. to 4:30 P. M.—Dr. E. F. Knipling, Chief, Entomology Research Branch, Agricultural Research Service, U.S.D.A., Beltsville, Md.—"Research Needs to Safeguard Crops from Insect Damage and to Protect Beneficial Insects." S. E. McGregor, Agricultural Research Service, Beekeeping and Insect Pathology Laboratory, Tucson, Ariz.—"Cotton Pollination and Hybrid Cotton." Charles Reed, Valley Pollination Service, Bakersfield, Calif.—"The Beekeeper's Role in Alfalfa Pollination." Ward Waterman, Maricopa Seed Farms, Bakersfield, Calif.—"Bees and Alfalfa Seed Grower." Panel Discussion — "Pollination." Moderator — James I. Hambleton, Head, Beekeeping and Insect Pathology Section, Beltsville, Md. Panel — S. E. McGregor, Frank Todd, Charles Reed, Ward Waterman.

5:30 P. M.—Ladies Luncheon.

7:00 P. M.—Meeting of American Beekeeping Auxiliary, Mrs. H. A. Schaefer, President.

8:00 P. M.—"500" Club. Program as arranged by E. H. Adey, President. Research Committee Meeting — Clarence Benson, Chairman. Bee Industries Association — Howard Dankemeyer, President.

**Wednesday, January 25**

9:00 A. M.—Bee Breeding Program: Wm. Wicht, President, the American Bee Breeders Association, Chairman. Dr. C. A. Jamieson, Dominion Apiarist, Ottawa, Canada, "Diseases of the Adult Bee with Special Reference to Nosema." Dr. Warren Whitcomb, Jr., Southern U.S.D.A., Experimental Laboratory, Baton Rouge, Louisiana—"Research in Beekeeping." A Representative of California Bee Breeders Association—"Bee Breeding Under California Conditions." A Representative of American Bee Breeders Association—"Bee Breeding under Southern Conditions."

1:30 P. M.—Marketing: S. Joaquin Watkins, Vice President, the American Beekeeping Federation, Chairman. "Honey Goes to Market," Mrs. Harriett Grace, Director, the American Honey Institute, Madison, Wisconsin.

2:00 P. M.—"Report of the Marketing Committee," S. J. Watkins, Chairman, Marketing Committee, American Beekeeping Federation.

2:20 P. M.—Panel Discussion: "The Importance of Cooperation Between the Segments of the Honey Industry in Marketing." Moderator, C. D. Floyd, State Apiarist, University Farm, St. Paul, Minn. Honey Packer: Thomas L. Ball, Superior Honey Co., Denver, Colorado. Honey Handler: Robert B. Willson, R. B. Willson Co., New York, N. Y. Producer Packer: Vernon G. Howard, President, Wisconsin State Beekeepers Association. Producer: John Holzerlein, Jr., Meeker, Colorado. Co-operative Marketing Organizations: Marvin W. Webster, representing Sioux Honey Association.

3:45 P. M.—Reading of Resolutions. Financial Report.

6:30 P. M.—Banquet: Alan I. Root, The A. I. Root Co., Medina, Ohio, Toastmaster.

**Thursday, January 26**

9:00 A. M.—Election of Officers. Business Meeting.

10:00 A. M.—Special Program for Non-Commercial Beekeepers, Hobbyists, and Amateurs. John Lis, Des Plaines, Ill., and A. R. Dean, Pittsburgh, Penn., Co-Chairmen, John Lis presiding. "Beekeeping for Pleasure and Profit": To be announced.

10:15 A. M.—Panel Discussion: "What is behind the Queens We Buy," J. W. Newton, Baton Rouge, Louisiana, Moderator.

11:00 A. M.—Panel Discussion: "Package Production, Shipping, and Installation," Wm. Wicht, Hattiesburg, Mississippi, Moderator.

1:30 P. M.—Honey Industry Council of America.

1:30 P. M.—"The Dependence of

Agriculture on the Honey Bee," Dr. C. A. Jamieson, Dominion Apiarist, Ottawa, Canada. (15 Minutes).

1:45 P. M.—"Disease Control," Panel—Dr. F. B. Paddock, Iowa State College, Ames, Iowa, Moderator.

2:30 P. M.—Panel Discussion: "The Problem of the Suburban Beekeeper," A. R. Dean, Pittsburgh, Penn., Moderator.

3:15 P. M.—Panel Discussion: "Responsibility of the Beekeeper to Educate the Public on the Need of Bees in the National Economy."—To be announced.

**SPECIAL NOTE:** Thursday morning 10:00 A.M., Meeting of the Board of Directors, the American Beekeeping Federation, continues until business is completed. Thursday afternoon, after Directors' meeting is completed, Executive Committee meeting, the American Beekeeping Federation. Affiliate Organizations: Meeting time as arranged. Honey Packers and Dealers: T. E. Burleson, President. American Bee Breeders Association: Wm. W. Wicht, President.

**NOTE:** The Presidents of the above organizations have not, as yet notified the Program Chairman of the time they wish the meetings scheduled for their organizations. For the time being, they will be listed "As Arranged." We hope meeting time can be listed in the latest Program.

Newman I. Lyle,  
Program Chairman.

**Ladies Auxiliary Program  
January 24, 1956**

5:30 P. M.—Ladies Luncheon.

7:00 P.M.—Auxiliary Meeting. Invocation—Mrs. Wm. W. Wicht. Welcome Address—Mrs. Homer Tate. Response—Mrs. Lawrence Budge. "Honey, What it means to the Industry,"—Mrs. Harriett M. Grace, American Honey Institute. Report on Past Auxiliary Meetings and Past Presidents by Mrs. Newman Lyle. Treasurer's Report—Mrs. Robert Walstrom. Group singing and distributing door prizes. Social hour to follow with refreshments.—Mrs. Wicht, Hostess, Mrs. Tate, Co-Hostess.

Plans are being made for a Gulf Coast Tour, also a boat trip, for those who may be interested. Hope to see you in Biloxi.

Mrs. Henry Schaefer  
President

**Annual Meeting  
Apiary Inspectors of America  
January 23, 1956**

The annual meeting of the Apiary Inspectors will be held at the Buena Vista Hotel on Monday, January 23 with forenoon, afternoon and evening sessions. The completed program will be mailed to apiary inspectors and anyone interested may obtain a copy by writing C. D. Floyd, Department of Entomology, Univ. of Minnesota, St. Paul, Minn.

**Westchester Co.**

**New Rochelle, N. Y., Jan. 15**

The Westchester County Beekeepers Association will hold its next regular meeting at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y., on Sunday, January 15, 1956, at 2:30 P. M.

After a short business meeting, we will retire across the street to the Coronet Tea Room and have our annual dinner and installation of officers.

Kindly make your reservations as soon as possible to Mrs. J. A. Bailey, 18 Burling Lane, New Rochelle, N. Y.

Mrs. A. Roth, Publicity

**University of Minnesota, St. Paul  
FARM AND HOME WEEK  
Beekeeping Program**

**Tuesday: January 10, 1956**

1:45 Introductory Remarks, M. H. Haydak.

2:45 Should I keep bees or play golf? C. D. Floyd.

3:45 Beekeeping Problems—Discussion and Movies.

**Wednesday: January 11, 1956**

9:00 a. m. The life of bees—M. H. Haydak.

10:00 The indispensable bee—F. G. Holdaway.

1:45 p. m. Pollen and pollen substitutes—M. H. Haydak.

2:45 Honey as food—Jane Leichsenring.

3:45 Anxieties and tribulations of a hobby beekeeper—Neil G. Barry, beekeeper.

**Thursday: January 12, 1956**

9:00 a. m. Preparing colonies for honeyflow—Walter D. Sundberg, beekeeper, Fergus Falls, Minnesota.

10:00 My experiences with bees (Illustrated with slides)—Henry Kriha, beekeeper.

11:00 Beekeeper and the public—C. D. Floyd.

1:30 p. m. Bee disease research—T. A. Gochnauer.

2:30 Bee poisoning and other hazards of beekeeping—C. D. Floyd.

3:00 Conservation and beekeeping—Richard J. Dorer, Supervisor, Bureau of Game, State Department of Conservation.

3:45 Beekeeping problems—Discussion and Movies.

**Friday: January 13, 1956**

9:00 a. m. Detection and control of bee disease—T. A. Gochnauer.

10:00 Fall management and wintering—M. H. Haydak, C. D. Floyd.

1:45 p. m. State regulations for beekeeping—T. L. Aamodt.

2:30 Beekeeping problems—Discussion, movies.

**Middlesex County**

**Waltham, Mass., Jan. 28**

The next meeting of the MIDDLESEX COUNTY BEEKEEPERS' ASSOCIATION (Mass.) is to be held on Saturday, January 28, 1956, at the Waltham Field Station.

Plans are well along for our annual bee exhibit at the spring flower show to be held in Boston in March. New beekeepers become members of our Association as a result of our display at the show. The chairman of the Flower Show Committee is Dan Hardesty of Maynard, Mass., who has his committee hard at work on the project.

L. C. Proctor, Secretary

**Southern Tier Beekeepers Assoc.**

The annual meeting of the association will be held at 8 P. M. on January 10 in the Farm Bureau office, City Court House, in Binghamton, N. Y. Everyone is welcome and a light lunch will be served. The speaker will be Norman Gary of the Department of Apiculture, Cornell University.

H. B. Webb, Sec'y

**Beginning Course in Beekeeping  
Jan. to May 1956**

The Dane Co. Beekeepers Assoc. announces an eight lesson beginning course in beekeeping to be held on Tuesday nights, from 8 to 10 P.M. at Middleton High School (Agric. Shop) located at the far north end of Middleton St., Middleton, Wis. The registration fee will be 50c per night or \$2.50 for the entire course. All persons interested in bees or beekeeping are invited to enroll. The program will be conducted by different instructors on the following nights:

Jan. 10—The colony organization. Honey quality and grading.

(Please turn to next page)



Jan. 24 — Beekeeping equipment. Installation of package bees.

Feb. 7 — Diseases and their control. Proper feeding methods.

Feb. 21 — The spring buildup. Two queen management.

March 6 — Swarming and its control. Supering methods.

March 20 — Fall management. Wintering the colony.

April 17 — Preparing honey for the market. The American Honey Institute.

May 19 (Saturday) — Visit to honey processing plant.

Further information about this course may be obtained by contacting Mr. Raymond W. Davis, Voc. Agric. Instructor, Middleton High School, or Stan Otis, Ph.: CE 3-6967 (days) or AL 5-3779 (eve's.), Madison.

#### **Alabama Annual Montgomery, January 27**

The annual Alabama beekeepers' meeting will be held in Montgomery, January 27, beginning at 9 o'clock. An interesting program is being arranged.

F. E. Guyton,  
Secretary-Treasurer

#### **BEEKEEPERS PROGRAM**

**Kansas State College  
Farm and Home Week  
Tuesday, February 7, 1956  
Room 102, Fairchild Hall**

##### **Morning Session**

Dell E. Gates, Extension Entomologist, KSC, Presiding  
9:00 Apiary Inspection Report, July 1, 1954-June 30, 1955—R. L. Parker, State Apiarist, Kans. Entomological Comm., Manhattan, Kans.  
9:15 Report of the Apiary Inspectors of America and American Beekeeping Federation Meetings—R. L. Parker.

10:00 Honey Production—Robert J. Walstrom, Asst. Professor of Entomology, South Dakota State College, Brookings, S. D.

10:45 Wintering Colonies in Distant Hives—R. L. Parker.

11:15 Kans. State Beekeepers Association—Vernon H. Ade, President, Haddam, Kansas.

11:45 Lunch Hour.

##### **Afternoon Session**

R. L. Parker, KSC, Presiding  
1:00 Weather Influences Upon Pollen Collection by Colonies—S. E. Rashad, Graduate Student, Kansas State College.

1:45 Motion Pictures (Sound)  
"Modern Bee Breeding", "When Bee Meets Bee"—Abbott Laboratories, Research Division.

2:30 Marketing Honey—Robert J. Walstrom.

3:00 Round Table Discussion — Leaders: Robert J. Walstrom, R. L. Parker.

#### **Michigan Farmers Week**

Dates: Tuesday, January 31  
Wednesday, February 1  
Place: Room 103 Kellogg Center  
Michigan State University  
East Lansing, Michigan  
Time: 10:00 A.M.

The Tuesday program will be commercial beekeeping day with talks on honey plants, marketing, preparing honey for market, comb honey, and other topics. The Wednesday program will be "Bee School" day for the less experienced beekeeper. Subjects will include literature, equipment, spring management, swarm control, honey preparation, diseases, wintering, and package bees.

Out-of-state speakers will include G. F. Townsend, of Guelph, Canada, John Buchanan of Medina, Ohio, along with several Michigan speakers. The new movie "Miracle of the Bees" will also be shown. All are welcome.

E. C. Martin, Program Chm.

#### **Vancouver Division News**

The Vancouver Island Division of the B. C. Honey Producers Association recently held their annual meeting, and the following were elected to office for the new year:

President—Ian Holder.

Vice President—Edgar Wadsworth.

Secretary-Treasurer — George V. Wilkinson, 1870 Ruby Rd., Victoria.

Directors—D. H. Heyer, C. Moscrip, D. Scholes, C. Warren, and the above officers.

Auditor—D. H. Heyer.

Honorary President—J. E. Corner.

At this meeting certificates of Beemaster were presented to Ian Holder, Edgar Wadsworth and George Wilkinson, who had attended a course earlier this year at the University of British Columbia. The presentation was made by Mr. W. MacGillivray, Deputy Minister of Agriculture.

A short course in beekeeping was conducted this month by this division. Instructors were Messrs. J. E. Corner, Provincial Apiarist, and V. E. Thorgeirson, Apiary Inspector. Between 25 and 28 attended nightly, attendance being 98% of those registering on the first night. The division hopes in this manner to start beginners off on the correct methods, with special reference to disease control.

## *Editorial*

### **Happy New Year . . .**

This new 1956 Journal wants every reader to have a Happy New Year in beekeeping, whether he has a few bees for pleasure (and most of us have been in that class at some time) or enough bees for an income to add to other income (a large class too) or enough bees to claim that the entire income is from either commercial honey production, or pollination, or the production of bees and queens.

We want all of you to find what you need in the Journal so we give you a new Journal. The parts of it are obvious. The experienced income-producing beekeeper will likely consider the reading in front just what he prefers. The smaller beekeeper may prefer the part beyond the center. Those who want industry news and research results will find them last before the departments.

The story in the center is a long one, either a historical study on a very practical basis; or a story about some noteworthy beekeeper who has accomplished something unusual.

\* \* \*

### **The Future for Honey . . .**

In the last 15 years the total output of our farms increased more than one third but the number of farms decreased 15% and the number of people on farms 27%. In only five of these years has the total output been less than the year before and in every year since 1950 it has been as large or larger than the year before. In 1955 it is at an all-time high. Yet farm income declines perhaps because of too high an output.

Since World War II the national birth rate has been high so that every two years the population increases by a number equal to the population of Chicago. That may be an answer to the farmer's dilemma and it may be an answer to the problem of honey marketing and price. Yet it should be kept in mind that the total agricultural production increased about 2% a year for the past 15 years while the population per year was increasing less than 2%.

On the other hand, while honey fluctuates in total crop because of seasonal differences, it has a tendency to remain about the same, so its market share among more people is something to offer us encouragement.



**POLIO**  
*isn't licked yet!*

Join the  
**MARCH OF  
DIMS**

*January 3 to 31*

**25 cents for 8' - 9 oz.**  
of your honey in our plastic  
comb honey section  
**COBANA PROD. CO.**  
P.O. Box 214 Dearborn 1, Mich.

**BETTER BRED QUEENS**  
Three-Banded Italians  
Happy New Year.  
Booking Orders for 1956.  
**CALVERT APIARIES, Calvert, Ala.**

**THRIFTY BEES**  
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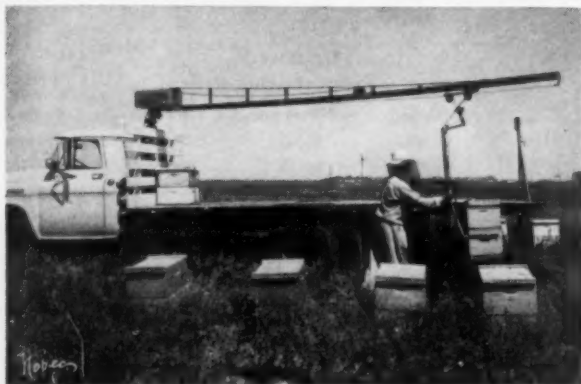
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***Sue Bee Says:***

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the Winter, but the  
Beekeeper Must Keep Busy.**

Don't get caught short next spring!! Get those supers painted and the foundation in. Also why not sort out those bad combs and replace them with Sue Bee Foundation. Send the old combs to our rendering plant to be melted up and exchanged for Sue Bee Foundation and other supplies or sell it to us at top market price. Remember Sioux Honey carries a Complete Line of Supplies at All Plants. Combs made from Sue Bee Foundation are supported by corrugated spring wire. We invite comparison.

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# **Sioux Honey Association**

**Sioux City, Iowa**

**Lima, Ohio; Rogers, Texas; Tacoma, Washington;  
Anaheim, California; Waycross, Georgia**

# Crops and Market

by M. G. Dadant

## Movement of Honey

Reporters are almost unanimous in their optimistic attitude over the sale of honey so far this year. Honey has been moving better than for several years, with the consequence that the problem of disposal of the balance of the crop does not seem to be worrying anyone from farm producer to big packer.

There has, however, been a cut in the demand for honey since the Thanksgiving season and apparently this will carry on through the Christmas season and into January, as is generally the rule. We do not believe, however, from the attitude of our reporters that the lull in demand has been nearly as great as in previous times.

## Per Cent Honey on Hand

In no case did we have any reports of more than 50 per cent of the crop on hand as of December 1, and this is remarkable in view of the fact that some years at least 75 per cent of the crop seemed to be on hand when the new year arrived. The fact is that most reporters were either out of honey, had only the smallest amount on hand or perhaps were forewarned enough to keep some to carry on trade throughout the late winter season. We would imagine that the average for our reporters was not over 25% of the 1955 crop still on hand as of December 1.

## Honey Prices

Prices have been maintained at a relatively high figure even with the probability that big buyers have secured enough honey to carry them through the holiday season and are not just now looking around for more honey at anything except sacrifice prices.

On the whole, white honey prices have averaged at 14c or above ex-

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C. W. Aeppler Co., Oconomowoc, Wis.

cept for some lower figures in the most distant freight rate categories.

One redeemable feature is the fact that the California supply of honey on hand has greatly diminished. Apparently California, with the help of such exportations to European and Canadian customers as have taken place, is assured that its crop will be taken care of by the California population. In other words, the growth of population in California combined with the intensely active efforts of both producers and packers to place honey before the public in an attractive manner, has meant all the difference in the world in the disposition of the entire California crop in the past few years. We hope this interest will continue.

Government reports indicate that some 3½ million pounds of honey was exported during September, nearly half of this going to West Germany and about one-fourth to the Canadian provinces. Other European countries made up the balance. An encouraging sign was that less than a half million pounds entered the United States as import, showing that the European markets were picking up much of the foreign honey which has been coming into U. S. ports because of the possibility of a higher price there.

## Honey Under Loan

While we understand that approximately a million pounds of honey has been placed under loan up to December 1, our reporters did not indicate that they or any beekeepers they knew had their honey under loan. Some beekeepers are still holding their entire crop of honey, apparently waiting for a "peak" market in January or February, and they are content to hold the honey themselves without availing them-

selves of the government loan opportunities. Of course, honey prices this year are quite well above honey loan prices so that the attractiveness of the loan is not so apparent.

## Moisture Conditions

While moisture has apparently been satisfactory in many northern areas, we doubt there is a single section of the country that would not be glad to have some additional moisture. Washington, Oregon and the Pacific coast have been nearest to normal or perhaps above normal. Then comes New England and a strip stretching westward across the Midwest as far as the prairie states and on into Montana and the Canadian provinces, particularly Quebec and Ontario.

In the plains states, Missouri, Louisiana and especially southeast through Alabama and Georgia and up into Virginia, more moisture is needed. The same rules going westward through Texas, New Mexico and Arizona.

It is our opinion now that we will have to anticipate spring rains for sufficient soil moisture as the early cold weather has frozen the ground to considerable depth in about all northern areas and the melting of such snow as may fall will largely run off. If the top soil thaws somewhat it may be an absorbent of later snows.

## Summary

Honey is moving well at extremely satisfactory prices, prospects are good for the balance of it to move, bees are in good condition, and, although the winter is severe they should carry through. We need more moisture for plants which are in average condition so far.

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